

While explained in greater detail both below and in the previous Response, Appellants respectfully submit that the Examiner has failed to appreciate the distinction between “current leaking *into* [a] control circuit,” as generally recited in the present claims (i.e., the “*input* leakage current” described and claimed in the present application) and “leakage current leaking *out of* a system to ground” as generally taught by both the White and Nevo references. Appellants first pointed out this distinction with respect to a

rejection based on the Nevo reference, and the Examiner subsequently withdrew the rejection. *See* Response to Office Action filed July 5, 2005, pages 11-12 (noting the deficiency of the Nevo reference); Office Action mailed October 5, 2006, page 2 (withdrawing the rejection based on the Nevo reference). However, the Examiner has now instituted a new rejection based on the White reference, which suffers *precisely* the same deficiency – it is directed to measuring the amount of current leaking *out of the system* to ground. *See* White, col. 3, lines 21-39 (which states, “*the stray current which flows to ground, such as through an insulator or the like, for example, is generally referred to in the art and herein as the ‘leakage current[ ]’*” (emphasis added)).

The White reference is directed to a control apparatus 10 configured to detect excessive *current leaking out of the electrical system 12 to ground* (such as through deterioration of insulation in various components of the system 12, including load 14, power source 16, or conductors 18) and to prevent damage to the components of the system 12 by providing control signals that warn an operator or disable the system by purposely triggering a relay 110 when the leakage current flowing out of the system to ground exceeds certain levels. *See, e.g., id.*; col. 3, lines 56-66; FIG. In sharp contrast, the present application addresses *current that leaks into a control circuit* that may inadvertently trigger a relay and disable an electrical system. *See, e.g.,* page 6, line 24 – page 7, line 6. Accordingly, the present claims generally recite “*input leakage current*” and “*current leaking into the control circuit,*” as opposed to current leaking out of an electrical system to ground as in the White reference. Because the White reference fails to teach, disclose, or even acknowledge current that leaks *into* a control circuit, the White reference fails to teach the elements of the claim alleged by the Examiner. For at least these reasons, Appellants respectfully request withdrawal of the present rejections and allowance of all pending claims.

**Rejections under 35 U.S.C. § 103**

In the Office Action, the Examiner rejected claims 1-28 and 34-38 under 35 U.S.C. § 103(a) as unpatentable over White (U.S. Patent No. 4,159,501) in view of Nevo (U.S. Patent No. 6,522,033). The Examiner also rejected claims 21, 22, and 29-33 as unpatentable over Gernhardt et al. (U.S. Patent No. 5,864,455) in view of White and Nevo. Because the cited references fail to disclose each and every element of the pending claims, Appellants respectfully traverse these rejections.

***Omitted Features of Independent Claims 1, 11, 19, and 34***

Appellants respectfully note that the White and Nevo references fail to disclose each element of independent claims 1, 11, 19, and 34. For instance, independent claims 1 and 11 each recite “a leakage current suppression circuit configured to ... *conduct leakage current leaking into the control circuit*” (emphasis added). Similarly, independent claim 19 recites “a leakage current suppression circuit ... operative to *conduct leakage current leaking into the control circuit*” (emphasis added). Notably, claims 1, 11, and 19 also variously recite controlling a switch in view of a comparison of a control signal to an *input* leakage current threshold. Additionally, independent claim 34 recites “controlling a conductive state of a solid state switch in series with a relay coil such that the relay coil is energized if a current level of an input control signal is above a predetermined *input leakage current* threshold level” (emphasis added). Because the cited references fail to disclose such elements, the cited references cannot support a *prima facie* case of obviousness with respect to independent claims 1, 11, 19, and 34.

The White reference discloses a control apparatus 10 that is provided to protect an electrical system 12. Col. 3, lines 56-66. Particularly, the cited reference teaches that control apparatus 10 reduces damage to components of system 12 by measuring excessive current leaking from the system 12 to ground. *Id.*; see also col. 3, lines 32-39. Notably, while the White reference also uses the term “leakage current,” the White reference *explicitly states* that this term is used in the reference to denote “the stray current which

flows [from the circuit] *to ground*” or, in other words, the current leaking *out* of system 12 to ground. Col. 3, lines 32-39. The control apparatus 12 includes signal generating assemblies 32 and 34 that sense that current is leaking *from the system to ground* and may provide a warning signal and disconnect signal, respectively, based on the sensed output leakage current. Col. 4, lines 44-60; *see also* col. 3, line 66 – col. 4, line 14.

Conversely, the present application discloses a circuit for suppressing unintentional current that may leak *into* the control circuit. *See, e.g.*, page 6, line 24 – page 7, line 6. Accordingly, in the present disclosure, the term “leakage current” refers to this *unintentional current present in the control circuit*. Appellants also note that the background portion of the present disclosure clearly supports this meaning, reciting a particular need for circuitry that “can suppress leakage current *in* relay circuits.” Page 2, lines 3-5. Particularly, the present techniques employ a leakage current suppression circuit to prevent this unintentional current entering, or leaking into, the control circuit from energizing the relay operator. *Id.*

In view of the discussion provided immediately above, it is evident that the White reference contains the same deficiencies recognized by the Examiner with respect to the Nevo reference. It is also readily apparent that each of the White and Nevo references, at best, discloses the detection and discontinuation of an *output* leakage current from the apparatus (i.e., current leaking *out of* the system to ground). However, neither of the cited references even mentions any current leaking *into* the disclosed systems and, thus, each of these references similarly fails to disclose any structure reasonably comparable to “a leakage current suppression circuit configured to ... conduct leakage current leaking *into* the control circuit” or controlling the switch in response to a comparison of a control signal and an *input* leakage current threshold as variously recited by the instant claims.

Because the White reference is deficient in precisely the same manner as the Nevo reference, these cited references collectively fail to disclose each and every element of the

present claims. Consequently, the White and Nevo references cannot support a *prima facie* case of obviousness with respect to independent claims 1, 11, 19, or 34, or the claims depending therefrom.

***Omitted Features of Claims 21, 22, and 29-33***

Appellants respectfully note that the White, Nevo, and Gernhardt et al. references fail to disclose each element of independent claim 29 or dependent claims 21, 22, and 30-33. For instance, independent claim 29 recites “a leakage current suppression circuit ... operative to conduct leakage current *leaking into* the terminal block relay assembly” (emphasis added). Because the cited references fail to disclose such an element, the cited references cannot support a *prima facie* case of obviousness with respect to independent claim 29. *See supra*; Response to Office Action filed January 5, 2006, pages 13-14. Dependent claims 21, 22, and 30-33 are allowable for their dependency from a respective allowable independent claim, in addition to the subject matter separately recited by these claims. Consequently, Appellants also respectfully request withdrawal of the rejections of these claims.

In view of the remarks set forth above, Appellants respectfully request withdrawal of the present rejections and allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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